CS 430 Expressions Lab (solutions)

Specification 1

Precedence	Associativity	Operand Evaluation Order
= (lowest)	R to L	L to R
+, -	L to R	
*, /, %	L to R	
++, --	-	
[] (highest)	-	

Specification 2

Precedence	Associativity	Operand Evaluation Order
= (lowest)	R to L	L to R
*, /, %, +, -	R to L	
++, --	-	
[] (highest)	-	

Specification 3

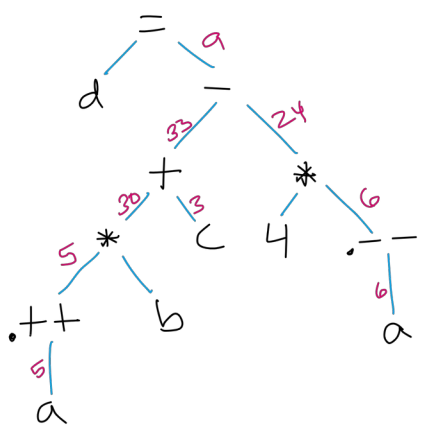
Precedence	Associativity	Operand Evaluation Order
= (lowest)	R to L	R to L
*, /, %	L to R	
+, -	L to R	
++, --	-	
[] (highest)	-	

Problems

Evaluate each expression below for each specification given above.

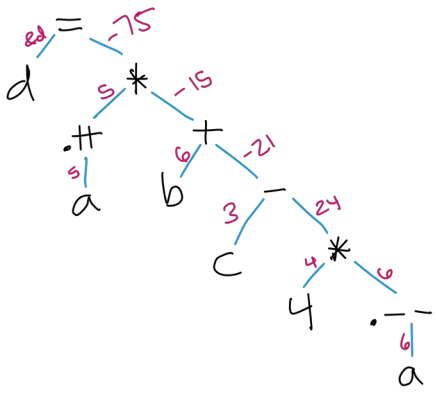
1. Initialization: `a = 5; b = 6; c = 3;` Expression: `d = a++ * b + c - 4 * a--`

Specification 1:



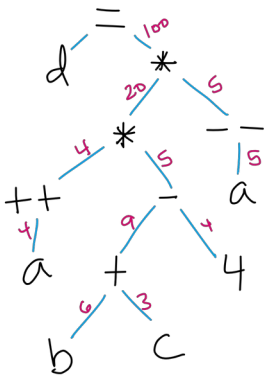
a 5 ~~6~~ 5
b 6
c 3
d 9

Specification 2:



a 5 ~~6~~ 5
b 6
c 3
d -75

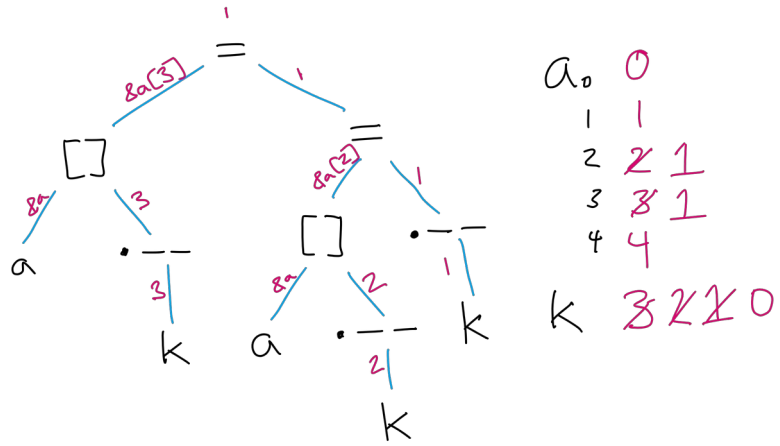
Specification 3:



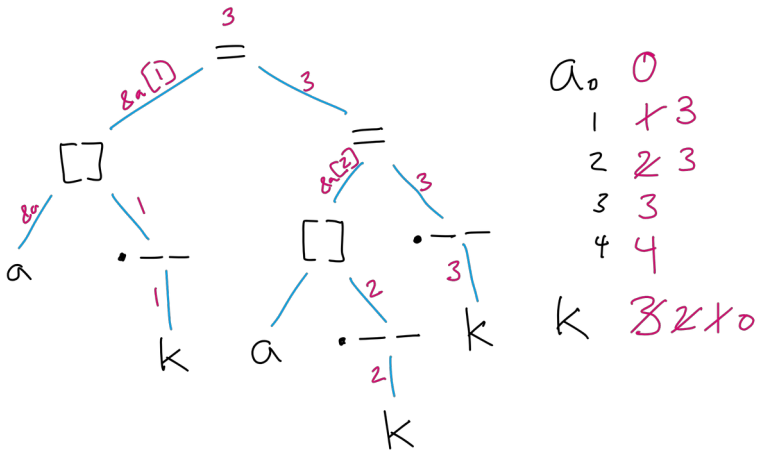
a 5 ~~6~~ 5
b 6
c 3
d 100

2. Initialization: `k = 3; a = {0,1,2,3,4};` Expression: `a[k--] = a[k--] = k--`

Specifications 1 and 2:

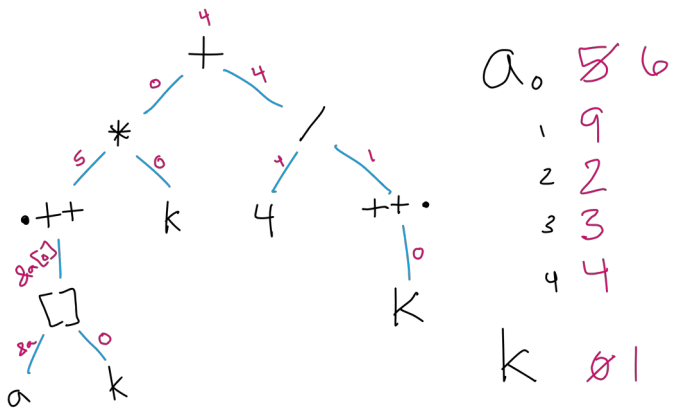


Specification 3:

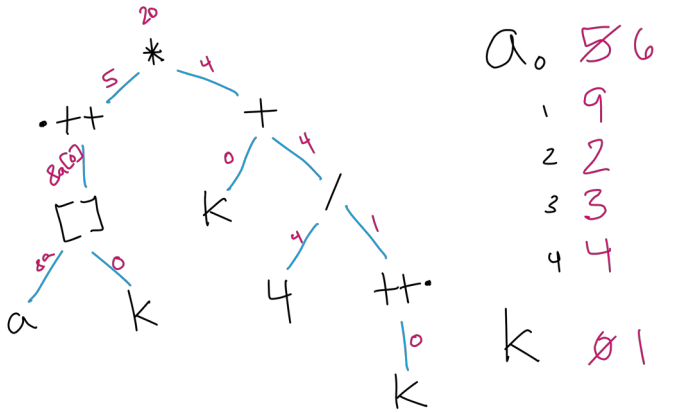


3. Initialization: `k = 0; a = {5,9,2,3,4};` Expression: `a[k]++ * k + 4 / ++k`

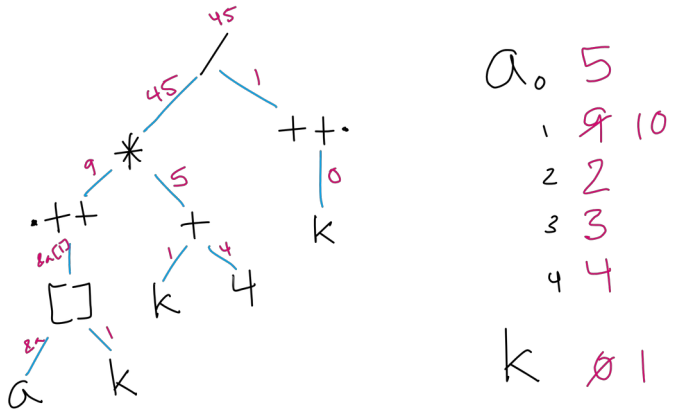
Specification 1:



Specification 2:

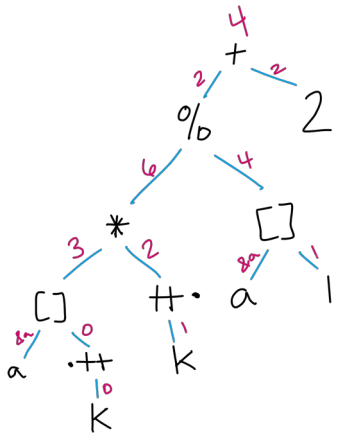


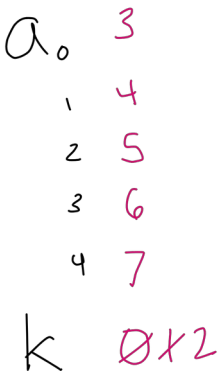
Specification 3:



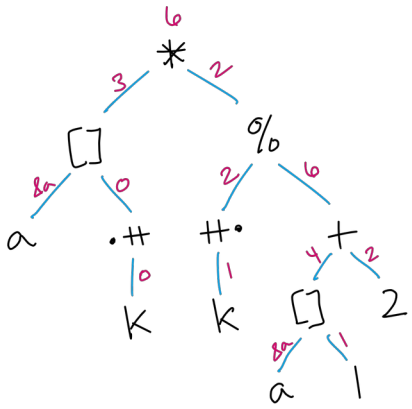
4. Initialization: `k = 0; a = {3,4,5,6,7};` Expression: `a[k++] * ++k % a[1] + 2`

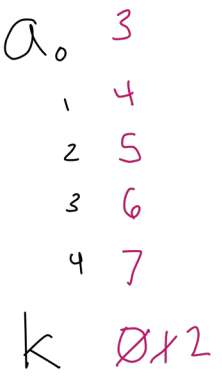
Specification 1:





Specification 2:





Specification 3: